

Secret Service Agent

You all know about famous secret service agent **Masud Rana**. Masud Rana is a fictional character created in 1966 by writer **Qazi Anwar Hussain**. Today he is going to send a message to his colleague **Shohana Chowdhury** in encrypted format.

He likes letter **R** very much, so he encrypt a message s in following pattern with height h (always odd).

If his message is $s = \text{"ABCDEFGHIJKLMNPOQRSTUVWXYZ"}$ & $h = 5$

Then his message will be like this:

EFG#RST

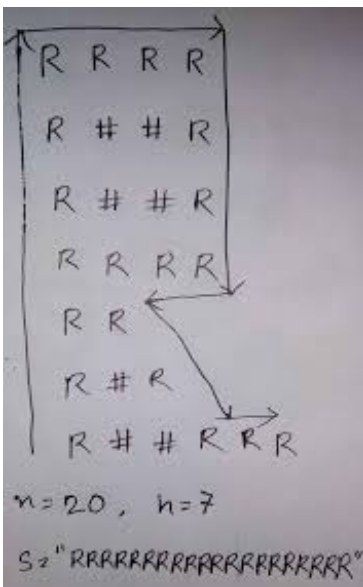
D#H#Q#U

CJI#PWV

BK##OX

A#LMN#YZ

That's mean result format have height $h=5$, and all letter will be in sequentially make big **R**. All other space will be fill up with **#**. Please see the following figure for better understanding.



(Line has drawn for explanatatory purpose)

Input

In first there is two integer n ($1 \leq n \leq 1000$) and h ($1 \leq h \leq n$, h is **odd**), length of the message and height of output. In next line there is a message s , message is a non-empty string consist with only **capital letter**.

Output

Print h line with corresponding answer with describe format.

Note that, there should not have any extra # after last letter of each line.

Example 1

Input:

13 3
PHQGHUMEAYLNA

Output:

QG#YL
HH#AN
PUMEA

Example 2

Input:

22 5
MXWTPTTYKDUYVXJBZHQUP

Output:

PTT#ZHQ
T#T#B#U
WKY#J#P
XD##X
M#UYV

Example 3

Input:

22 7
MXWTPTTYKDUYVXJBZHQUP

Output:

TTYK
T##D
P##U
TXVY
WJ###P
X#B##U
M##ZHQ

[This problem originally contributed by **Reajul Haque Reayz, CSE, CoU**]